it may be observed generally that the lower beds in a quarry are the most durable. A few years ago it was suspected in the Mauritius that the Yorkshire stone sent out to that station for use in barracks and other Government works, was not calculated to withstand the heat of the sun in that climate, a great deal of it having blistered and peeled in a remarkable manner. In consequence of this, reports were called for from Barbadoes, Jamaica, Bahama, and other tropical countries in which Yorkshire pavement had been used, and these reports were unanimous in denying any such effect as due to solar heat, although similar instances of peeling had been observed where the stone was of inferior quality. The result of the investigation was, that Yorkshire paving of good quality was perfectly adapted to resist the effects of a tropical climate.

With reference to the defects in laying down pavement, they generally arise from a bad foundation. Pavements are frequently laid on new or made ground which should either be closely and carefully rammed or pressed all over and filled up with dry hard rubbish, or what is much better, with 6 or 8 inches of good concrete, perfectly levelled to a fair and even surface, on which the paving stones should be laid. I have often observed where paving has been laid down in court-yards, &c. in front of new buildings, the stones have slid away from the walls, and left unsightly gaps, highly suggestive of carelessness, or something worse, on the part of the contractor, and of equal inattention by the architect. All this would be prevented by forming a proper concrete foundation before laying the stones. If this be not done, and if the bed on which they are laid be irregular, or yielding in parts, and hard in others, the large paving stones are sure to be acted on most unfairly, to be tilted about by pressure, in which case they act as strong levers, aiding their own destruction, and are certain either to be broken or settled into some unsightly and irregular position.

MAGNESIAN LIMESTONE AND NEW RED SANDSTONE.

This formation is of very high geological interest, as it comprises the first deposits of that great sea which surrounded the elevated islands of the coal formation, and left its mud and sand on the flanks of the mountain limestone, the old red sandstone, and the Silurian rocks. With the exception, however, of the magnesian limestone beds, which constitute the lower part of the new red sandstone series, the formation furnishes few building stones of great value. It is true that the new red sandstone everywhere contains beds of indurated sand, which are quarried and esteemed locally for building purposes; yet they are seldom transported to any considerable distance, and seldom enjoy more than a mere local reputation.

The magnesian limestone is found skirting and overlying the coal measures wherever they appear in this country, and I shall now briefly trace the course of the principal ranges. Commencing with the eastern side of the island, it appears at the mouth of the Tyne, and extends along the eastern edge of the Newcastle coal field, and on the same side of the midland field as far as Nottingham. Its direction will be understood by tracing the position of the following towns, which are all situate on or close to the magnesian limestone, South Shields, Sunderland, east of Durham, east of Bishops Auckland, Darlington, Middleton Tyas, Ripon, Knaresborough, Tadcaster, Sherburn, Knottingley, Doncaster, Worksop, Mansfield, and Nottingham, the average breadth throughout this range being four or five miles. Passing round by Derby and Uttoxeter, the magnesian limestone again appears at the latter place and continues in a very circuitous course, skirting the Potteries coal field by Lane-end, Newcastle-under-Lyne, Church Lawton, and Congleton. Approaching the Lancashire coal field, it proceeds by Macclesfield, Stockport, Manchester, Middleton, Newton, Liverpool, Ormskirk, and Preston, with an average breadth of about 2 miles. Another extensive range of magnesian limestone commences at Wrexham, and after skirting the Flintshire coal field and the various Shropshire coal districts, proceeds down under the Malvern hills through the saliferous district of Worcestershire to the eastern side of the Forest of Dean. A wide crescent of magnesian limestone belts the Whitehaven coal field on the north side. A large bay in the Tamworth coal field is entirely filled up by it. The Dudley coal field is entirely surrounded by a belt of it, averaging 3 miles in breadth. It skirts in patches the southern boundary of the South Wales coal field, and appears hanging on the sides and overlying the edges of all the older rocks throughout the Bristol and Somersetshire coal fields. The structure of the magnesian limestone varies considerably, from that of a fine-grained crystalline sub-oolitic rock to a coarse conglomerate of carboniferous limestone pebbles and fragments of old red sandstone, imbedded in an argillo-calcareous basis. In this conglomerate the imbedded fragments are of every size, from that of a marble up to masses of several hundred pounds weight. Generally the fine-grained magnesian limestones are the most valuable as building stones, and of these the Exhibition contained a very good collection.

No. 197 contained a specimen from Knaresborough, a compact cream-coloured stone, with imperfectly oolitic grains and crystalline calcareous cement. Most of the magnesian limestones, however, when perfectly dry attain a lighter cream colour, but never that peculiar light grey of the best Portland stone, which harmonizes so well with the sky and atmosphere of this climate.

In No. 160 there was a specimen from Huddleston quarry, near Sherburn. This quarry is particularly described by the commissioners appointed to select the stone for the Houses of Parliament. They state that very large blocks are procured from it, namely, from 8 to 10 tons weight and 16 feet long; that one block lately extracted weighed 14 tons, and that good freestone below the bottom of the quarry has been bored to the extent of 40 feet. The quarry contains beds from a few inches to 4 feet in thickness: the colour of the stone *whitish cream*. It consists chiefly of carbonate of lime and carbonate of magnesia in nearly equal proportions: weight 137 lbs. 13 oz. per cubic foot. When acted on by artificial frosts, according to Brard's process, this stone lost less than ·04 per cent. of its weight by disintegration, or 1 grain in 2365; whereas some of the other stones experimented upon lost 1 grain in 174, and most of the oolitic stones lost from 1 in 300 to 1 in 400, showing an amazing difference in the power possessed by these various stones to resist decomposition by atmospheric influences. The stone from Huddleston quarry is in very high repute, and was used in the erection of York Minster, Selby Cathedral, Huddleston Hall, Sherburn Church, Westminster Hall, the new Houses of Parliament, Galeforth Hall, &c. This stone is estimated to cost 2s. per foot at the quarry, and 16s. per ton carriage to London, making the price there 3s. per cubic foot. As the Great Northern Railway, however, passes close to the quarries, and as that company has announced its intention of carrying heavy mineral produce at a greatly reduced rate, it is probable that this stone might be delivered in London at about 2s. 6d. per cubic foot.*

GUILDHALL, LONDON.—In Mr. Brewer's paper the destruction by fire of the ancient roof of Guildhall, London, is deemed "irreparable," and in the line immediately under, page 669, it is added, "no representation is preserved." *This is a mistake*, for it will be found in "Specimens of Ancient Carpentry" (plate 16), by James Smith, published by J. Seago, High-street, St. Giles, 1787."—A SUBSCRIBER.——Another correspondent, the sexton of Christ Church, Spitalfields, says that beneath the east window of Guildhall the female statue is that of Queen Henrietta, consort of Charles I.—not Queen Elizabeth.

* To be continued.

A HISTORICAL NOMENCLATURE FOR ENGLISH GOTHIC.

IN your number for 4th of October, there is a proposal by Mr. Garbett to introduce a historical, instead of descriptive nomenclature, for English Gothic. The discussion to which it must have given rise will probably be nearly over by the time you receive this; but I should be glad if you would permit me, though thus late, to express in your columns my entire concurrence in Mr. Garbett's views, and my hope that his suggestion may be quickly and generally acted upon. I am not sure that the names he proposes are the best which could be chosen, but I am very sure that the principle is right, and that the adoption of a nomenclature of this kind would not only put an end to innumerable vain disputes and harmful obscurities of expression, but help the general public to a better understanding of the relation of art to the political circumstances of nations.

I see there is fault found, in the same paper, with my way of talking of Orders. I will render reason for this elsewhere, having time at present only to fulfil a neglected duty towards another of your correspondents. Several months ago, some plumber or glazier was trying, in your columns, to defend the modern practices of marbling, graining, and such other lying ornamentation, from what I had alleged against them, when one of the ablest of your correspondents took up the good cause, and answered him so thoroughly, handling several parts of the subject much better than I had been able to do, that I have ever since had it in my mind to request you to convey my thanks to him for his defence, not of me or my sayings, but of most important truth. I have not your paper by me here, and cannot, therefore, say in what numbers the discussion appeared; but your readers will probably remember it, or, if not, will find it worth the trouble of a little search.

Venice. J. RUSKIN.

HOW CHINESE WORKMEN BUILT AN ENGLISH HOUSE.

THE second part of the volume for 1851, issued by the "Architectural Publication Society," consists of a curious and interesting essay on *Chinese Architecture*, partly compiled from various authors, and partly written by Mr. E. Ashworth, of Exeter, who was resident in China nearly two years: he has also supplied a number of illustrations, which are printed in colours.

We transfer to our pages the following memoranda concerning the erection, by native artizans, of an English house in China designed by the writer:—

"The evidence that a bargain had been struck between the English merchant and Chinese contractor, appeared on my plans in the form of a perpendicular column of characters neatly traced with a brush and Indian ink.

My employer would not have the specification translated. 'You'll have no difficulty with Achone,' he said: 'he's been a ship carpenter, and is well accustomed to building for the Europeans, and he'll do anything you ask him. They're infernal rogues, these Chinamen—confounded rogues, *all* of 'em, but they know I'm too deep for 'em, they can't cheat *me*.' The foundations being laid about four feet thick, of long masses of granite as large as a milestone, I felt there was less necessity to oblige the contractor to dig up some large natural rocks that interrupted the level of the trenches. We had a serious difference of opinion, however, about these rocks: Achone declared that if they were extracted, the soft bed underneath them would swamp the footings. I was pleased to observe a proper English mason's level employed in place of the clumsy water-trough generally used by the Chinese. The three customary courses of granite ashlar, above the plinth, to keep out *lalelloons* (thieves), were a long time in laying. I admired the patience of the masons, each perched upon a block, punching with iron hammer and chisel steadily through

* Mr. Ballantine and those who know him will, we have no doubt, excuse us for allowing Mr. Ruskin to choose his own mode of expression.—ED.

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